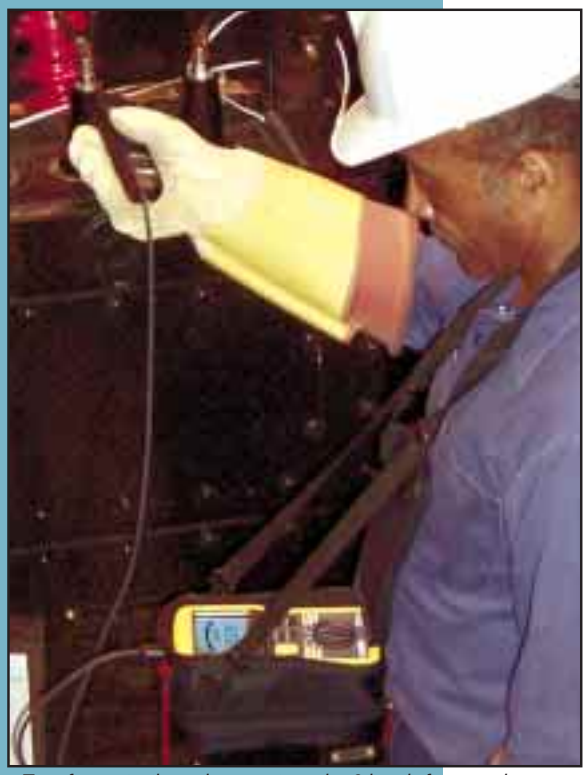
DIGITAL/ANALOG MEGOHMMETERS
Models 1030/1040/1045

- Test voltages combinations 250V, 500V and 1000V
- Insulation measurements to 2000MΩ
- Automatic discharge for operator safety
- Multi-line 4000 count backlit digital display with analog bargraph
- Resistance, 200mA continuity and alarm functions
- Timer function for easy DAR and PI measurements
- Over-molded slip-proof holster for rugged field use
- IEC 1010, 600V Cat. III

AEMC® INSTRUMENTS

DESCRIPTION



Transformer testing using remote probe & hands free carrying case

Product Construction

The new AEMC® Megohmmeter Models 1030, 1040 and 1045 are the latest design in multiple voltage insulation, resistance and continuity meters.

They incorporate the latest measurement technology and are specifically designed to the most recent international insulation and continuity testing standards, as well as IEC 1010, 600V, Cat. III safety standards.

Their rugged construction is unique in Megohmmeters. A slip-proof and shock-proof holster is directly over-molded on the high impact polycarbonate case. The overall ergonomic shape fits naturally into the hand and the two back case ridges facilitate a firm grip on the meter. The overall case is sealed against water and dust with an IP 54 (Index of Protection), NEMA 3 rating.

An exceptionally large Digital/Analog display provides clear and easy readings enhanced by a bright blue electroluminescent backlight. The large 4000 count digital display provides clear measurement readings, while the long and fast responding arced analog bargraph provides easy readings for trends. These two digital and analog features are enhanced by a third digital display which indicates alarm set points or elapsed time.

Measurement Functions

Numerous safety and display features are incorporated. All models measure insulation resistance to 2,000 MΩ under the 1mA test current requirement at rated output voltage. Each model incorporates a 600V voltmeter which automatically detects and accurately displays AC/DC voltages in the test circuit whether in insulation, resistance or continuity ranges. Above 25V it also provides an audible and visual signal, and inhibits further tests, thus protecting the user and the meter. After an insulation resistance measurement, the megohmmeter will automatically discharge the circuit and display the remaining capacitive voltage at the test sample.

20Ω range continuity test is taken at 200mA in compliance with the IEC 61557 standard and offers high 0.01Ω resolution.

Time sensitive measurements such as DAR (Dielectric Absorption Ratio) and PI (Polarization Index) are greatly facilitated with the built-in timer function which clearly displays the elapsed time. When the timer function is selected, the user does not need to keep pressing the test button, and may operate hands free for the duration of the test or until the test button is pressed again. The megohmmeter will beep automatically at 30sec, 60sec and 10 minutes, to remind the user to record the measurements. Continuity and resistance measurements do not require the use of the test button.

An optional Remote Test Probe (with light) is available and permits operation from the probe.

Note: Features and descriptions not common to all models – please refer to "Overview of Functions" for model descriptions

Motor test using standard leads

FEATURES

- Extra large multi-line 4000 count backlit digital display with analog bargraph
- Simple, straightforward intuitive operation with clear buttons and Digital/Analog LCD display
- Test voltages combination from 250V, 500V and 1000V, and insulation measurements to 2,000MΩ
- Automatic discharge with display of remaining capacitor at the test leads
- Built-in auto-ranging AC/DC 600V default voltmeter and warnings, with test inhibitor for enhanced user safety
- Hands free resistance range with low voltage and low current for sensitive sample testing
- Fast responding and standard compliant continuity range with 200mA test current, lead resistance compensation (auto zero), and 10mΩ resolution
- Alarm function for quick and repetitive tests
- Timer function for easy Dielectric Absorption Ratio (DAR) and Polarization Index (PI) measurements
- Battery life indicator at power up – using digital display and analog bargraph
- Designed to meet most rigorous field demands through unique construction and measurement features
- Over-molded slip-proof hard case with custom ergonomic back design to improve holding and handling
- Optional test probe for remote test activation
- Complies with international insulation test standards (IEC 61557) and safety standards (IEC 1010, 600V Cat. III)
- Water and dust proofed to IP54, NEMA 3
- UL, CSA, GS, VDE agency approvals pending
- CE Mark

APPLICATIONS

- **Motor Insulation Resistance Measurements**
- **Continuity Checks & Low Resistance Measurement**
- **Test/Industrial Commercial Wiring & Motor Control Centers**
- **Test Motors (AC & DC) & Transformers**
- **Dielectric Absorption Ratio and Polarization Index Measurements**
- **Cable Testing**

Easy to read digital/analog display

KEY COMPONENTS

Straightforward layout & intuitive operation

Alarm & Time Display

"FUS" displayed if fuse open

Function Indicators and Warnings

Large Ergonomically Shaped Test Button

Cursor Keys to Adjust Alarm Settings

Analog Bargraph

Dual Digital LCD Displays

Battery Charge (%) Displayed During Power Up

Alarm On/Off Key

Back Light Key

Timer Button

Large Range Selector Switch

Shown at Actual Size

OVERVIEW OF FUNCTIONS

FUNCTION	Model 1030	Model 1040	Model 1045
250V (2,000MΩ)	✓		✓
500V (2,000MΩ)	✓	✓	✓
1000V (2,000MΩ)		✓	✓
Voltage (600VAC/DC)	✓	✓	✓
Continuity (20Ω) @200mA	✓	✓	✓
Resistance (400kΩ)		✓	✓
Lead Compensation		✓	✓
Backlight		✓	✓
Alarm (setpoint, <, >)		✓	✓
Remote Test Probe		✓	✓
Timer (0–15 minutes)			✓
Timer Beeper (@ 30sec, 60sec & 10min)			✓
Digital Dual Display	✓	✓	✓
Analog Bargraph	✓	✓	✓
Auto–Off	✓	✓	✓
Continuity Buzzer	✓	✓	✓
Continuity Buzzer Disable	✓	✓	✓
Voltage Detection (>25V)	✓	✓	✓
Safety Test Inhibitor	✓	✓	✓
Automatic Discharge	✓	✓	✓
Fuse Protection	✓	✓	✓
Auto Fuse Check	✓	✓	✓
Low Battery	✓	✓	✓
Battery Capacity (%) Indication	✓	✓	✓
Auto–Off Disable		✓	✓
IEC 1010, 600V Cat. III	✓	✓	✓
CE Mark	✓	✓	✓
UL, CSA, GS, VDE Approval	PENDING	PENDING	PENDING
Optional Remote Test Probe		✓	✓
Optional Hands Free Carrying Case	✓	✓	✓
Optional Waterproof Field Case	✓	✓	✓

◴	Timer On
ALARM	Alarm On
>	High Limit Trigger
<	Low Limit Trigger
⚠	Test Voltage On
–	Negative Value
⚠	Refer to User Manual
FUS	Fuse Open
>25V	Measured Voltage > 25V
Ω → 0 ←	Lead, Resistance Zeroing
●)))	Active Buzzer
Ⓟ	Permanent Run - Auto Off Disabled
	Low Battery

INPUT CONNECTIONS

Model 1030

Models 1040 & 1045

SPECIFICATIONS

	Model 1030	Model 1040	Model 1045
Insulation Tests			
Test Voltage/Range	250V: 50k – 2000MΩ 500V: 100k – 2000MΩ	500V: 100k – 2000MΩ 1000V: 200k – 2000MΩ	250V: 50k – 2000MΩ 500V: 100k – 2000MΩ 1000V: 200k – 2000MΩ
Short Circuit Current	≤3mA	≤3mA	≤3mA
Accuracy	3% Reading ± 5ct (<40MΩ) 3% Reading ± 2ct (>40MΩ)	3% Reading ± 5ct (<40MΩ) 3% Reading ± 2ct (>40MΩ)	3% Reading ± 5ct (<40MΩ) 3% Reading ± 2ct (>40MΩ)
Automatic Discharge	Yes	Yes	Yes
Continuity			
Range	0.00 – 20.00Ω	0.00 – 20.00Ω	0.00 – 20.00Ω
Short Circuit Current	≥200mA	≥200mA	≥200mA
Accuracy	3% Reading ± 1ct	3% Reading ± 1ct	3% Reading ± 1ct
Automatic Discharge	Yes	Yes	Yes
Resistance			
Range	—	0.0 – 400kΩ	0.0 – 400kΩ
Open Voltage	—	7 – 9V	7 – 9V
Accuracy	—	3% Reading ± 1ct	3% Reading ± 1ct
Voltage Test (Safety Check)			
Voltage Range	0 – 600VAC/DC	0 – 600VAC/DC	0 – 600VAC/DC
Voltage Warning Ind.	>25V	>25V	>25V
Accuracy	3% Reading ± 1ct	3% Reading ± 1ct	3% Reading ± 1ct
Test Inhibition	Yes >25V	Yes >25V	Yes >25V
Display			
Display Size	2″x3″ (54.3mm x 73mm)	2″x3″ (54.3mm x 73mm)	2″x3″ (54.3mm x 73mm)
Digital Display	4000 count	4000 count	4000 count
Analog Bargraph	34 segments	34 segments	34 segments
Backlight	—	Blue Electrolumenescent	Blue Electrolumenescent
General Specifications			
Power Supply	6x1.5V AA (NEDA 15A)	6x1.5V AA (NEDA 15A)	6x1.5V AA (NEDA 15A)
Dimensions (LxHxW)	8.31″ x 4.26″ x 2.36″ (211 x 108 x 60mm)	8.31″ x 4.26″ x 2.36″ (211 x 108 x 60mm)	8.31″ x 4.26″ x 2.36″ (211 x 108 x 60mm)
Weight	29oz (830g)	29oz (830g)	29oz (830g)
Protection Index (IP)	IP54 (NEMA 3)	IP54 (NEMA 3)	IP54 (NEMA 3)
Patent Pending	Yes	Yes	Yes
Safety			
IEC 1010-1	600V, Cat. III	600V, Cat. III	600V, Cat. III
EMC	Yes	Yes	Yes
UL, CSA, VDE, GS	Pending	Pending	Pending
CE Mark	Yes	Yes	Yes

Specifications subject to change without prior notice.

ACCESSORIES

Accessories include an optional switched Remote Test Probe which may be fitted for all measurements. The probe remotely acts as the test button. The Remote Test Probe also incorporates a light to brighten dark testing areas.

When placed in the hands free carrying bag, the megohmmeter can either be carried on the shoulder to transport it or around the neck for use. This leaves the user's hands free to perform the measurements. At the bottom of the shoulder bag there is a pocket for the leads, the alligator clip and remote test probe.

The heavy-duty ABS field case is waterproof. It holds the megohmmeter and its accessories for durable field testing and travel.

FIELD CASE

Catalog# 2118.98

For use with the Models 1030, 1040 & 1045

HANDS FREE CARRYING CASE

Catalog# 2118.99

For use with the Models 1030, 1040 & 1045

REMOTE TEST PROBE

Catalog# 2118.97

For use with the Models 1040 & 1045

ACCESSORIES/ORDERING INFORMATION

SOFT CARRYING POUCH

Included with standard megohmmeter models

TEST LEADS

Included with standard models and field kit

FIELD KIT

Available in Models 1040 & 1045

ORDERING INFORMATION	CATALOG NO.
Megohmmeter Model 1030 (Digital with Analog Bargraph, 250V, 500V)	**Cat.# 2116.89**
Megohmmeter Model 1040 (Digital with Analog Bargraph backlight and Alarm, 500V, 1000V)	**Cat.# 2116.92**
Megohmmeter Model 1045 (Digital with Analog Bargraph backlight, Alarm and Timer, 250V, 500V, 1000V)	**Cat.# 2116.93**
All models include a soft carrying pouch, two color-coded leads, black test probe, two alligator clips, batteries and user manual	
Megohmmeter Field Kit 1040	**Cat.# 2117.30**
Megohmmeter Field Kit 1045	**Cat.# 2117.31**
All kits include megohmmeter, field case, two color-coded leads, black test probe, two alligator clips, remote test probe, batteries and user manual	
Accessories	
Remote Test Probe	**Cat.# 2118.97**
Field Case (Waterproof)	**Cat.# 2118.98**
Hands Free Carrying Case	**Cat.# 2118.99**

Call the AEMC® Instruments Techincal Assistance Hotline for immediate consulation with an applications engineer: **(800) 343-1391**

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